Soldier Transitions: Health Assessment and Battlemind Training Research

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US Army Medical Research Unit – Europe (USAMRU-E)

Purpose

- Present an overview of recent work conducted by Walter Reed Army Institute of Research (WRAIR) in support of Soldiers returning from combat tours.
- Provide details on:
  - Psychological health re-assessments at 90-180 days post-reintegration
  - Battlemind I and Battlemind II training

Outline

- Mental health Post-Deployment Health ReAssessment (PDHRA) program
  - Supporting research
  - Best practices in terms of implementing program
- BATTLEMIND Training
  - Supporting research
  - Implications and Battlemind Training System
- NATO Leader's Guide
- Summary
- POCs

Mental Health Assessment

- Post-deployment mental health assessment
  - Identify individuals with problems, and provide mental health services so they can continue to be successful in the military
  - Include a combination of survey instruments and secondary interviews
- Problems addressed by research
  - What problems should be assessed?
  - What specific questions should be asked and how should these questions be interpreted?
  - When should the assessments occur?

Assessment: What Problems?

- Content validation conducted with interviews
  - Nearly 2,000 Soldiers deployed to peacekeeping and combat operations interviewed by USAMRU-E
- Six primary clinical dimensions identified:
  - Depression
  - Traumatic Stress
  - Relationship Problems
  - Anger Problems
  - Alcohol Problems
  - Sleep Problems

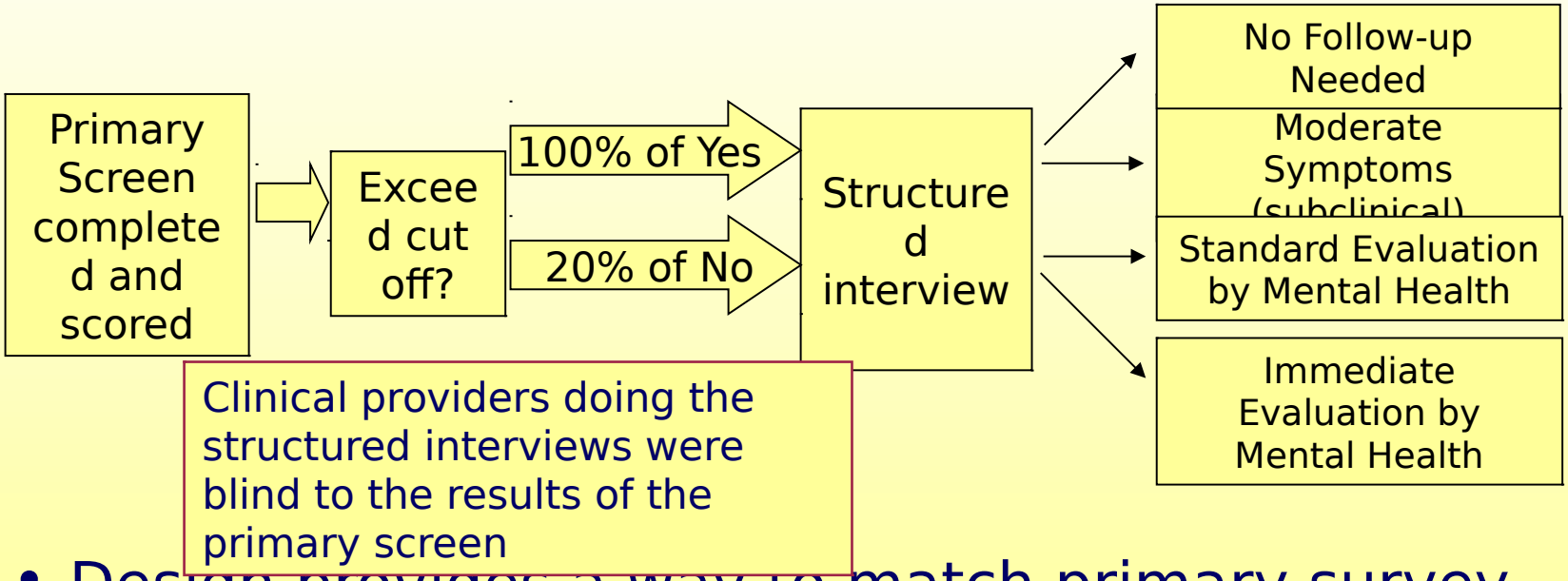
Assessment: What Questions?

- Many validated scales available in literature
- Challenges
  - Scales typically validated on civilian populations
  - Scales may have complicated scoring algorithms
  - Scales may be long (20 to 60 items)
- Psychometric analyses used to validate and modify scales for military use
  - Blind validation studies
  - Item response theory

Assessment: Blind Validation

- Primary screen survey
  - Demographics
  - Clinical/personal history
  - Clinical dimensions
    - Post-traumatic stress
    - Depression
    - Anger problems
    - Relationship problems
    - Alcohol problems
    - Sleep problems
- Secondary screen interview
  - Based on MINI (structured)

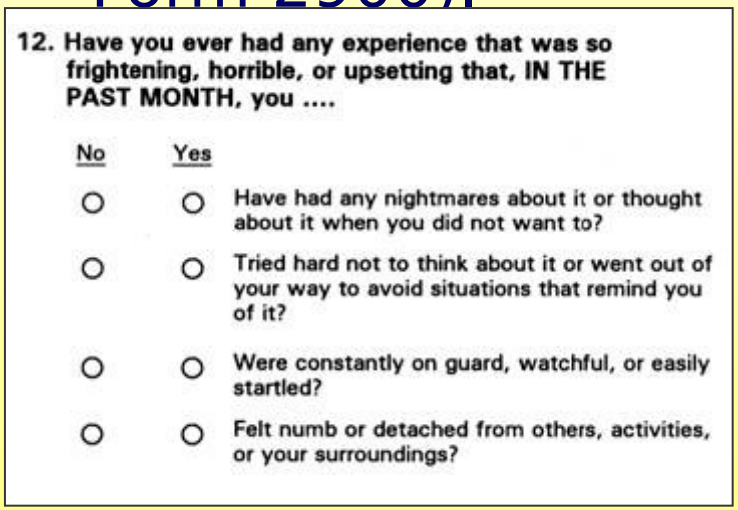
Assessment: Blind Validation



- Design provides a way to match primary survey responses to an independent assessment
- Three blind validation studies conducted in 2004 and 2005 in USAREUR

Assessment: Blind Validation

- Four items used to assess traumatic stress in US Military (DD Form 2796; DD Form 2900).



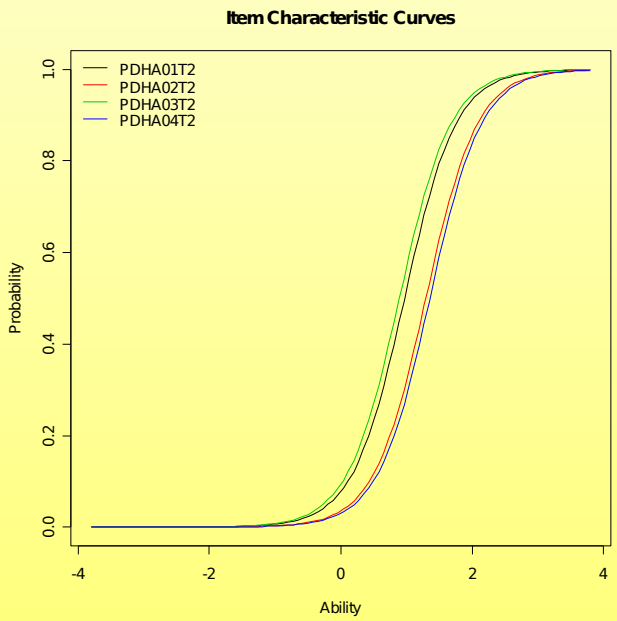
12. Have you ever had any experience that was so frightening, horrible, or upsetting that, IN THE PAST MONTH, you ....

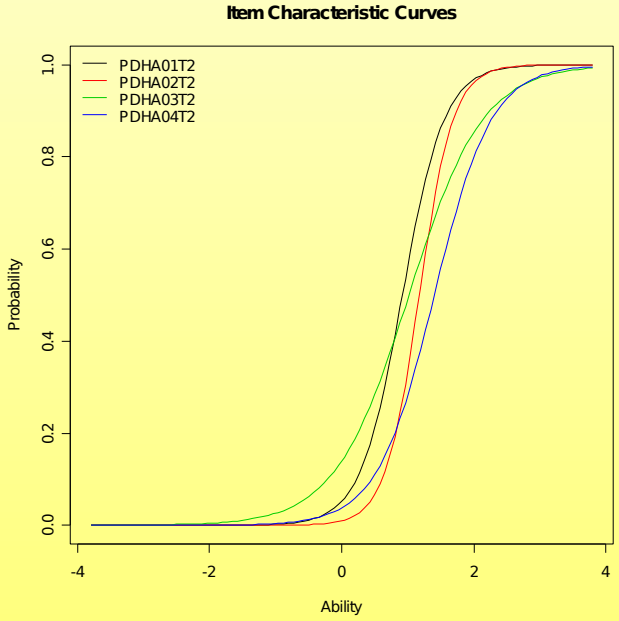
No	Yes	
○	○	Have had any nightmares about it or thought about it when you did not want to?
○	○	Tried hard not to think about it or went out of your way to avoid situations that remind you of it?
○	○	Were constantly on guard, watchful, or easily startled?
○	○	Felt numb or detached from others, activities, or your surroundings?

Post-Deployment Sample II		
	Primary Screen with 2 or More Positive Response	
Clinical Provider	Negative	Positive
Negative	222	89
Positive	6	35
	Sensitivity	0.85
	Specificity	0.71
	Primary Screen with 3 or More Positive Response	
Clinical Provider	Negative	Positive
Negative	275	36
Positive	10	31
	Sensitivity	0.76
	Specificity	0.88

Assessment: IRT

- In Item Response Theory (IRT), item 2 (tried hard not to think about it) has good properties
  - Endorsed by Soldiers with high symptom levels
  - Best discrimination among all four PTSD items



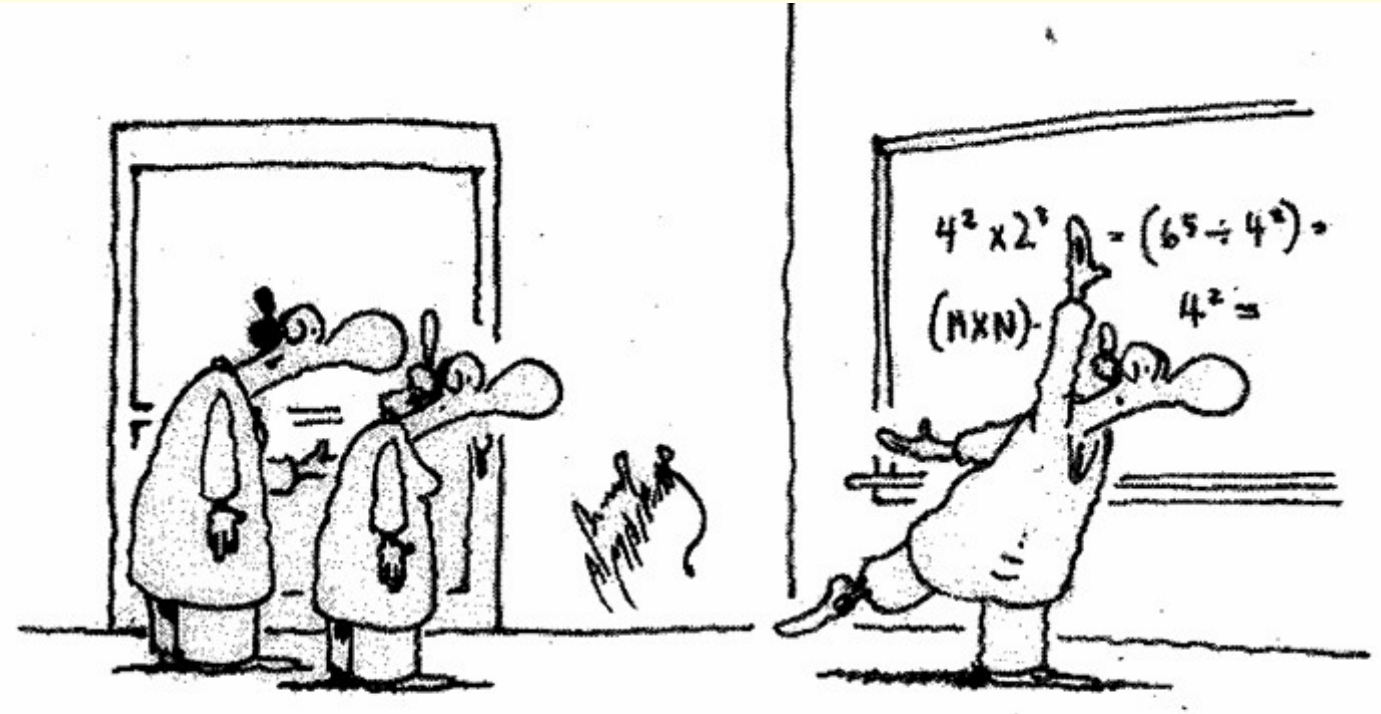


Assessment: Item 2

- Item 2 is an avoidant item:
  - Tried hard not to think about it or went out of your way to avoid situations that remind you of it.
- Performs well as a single item screen.

Post-Deployment Sample II		
	Response to Item 2	
Clinical Provider	Negative	Positive
Negative	262	49
Positive	8	33
	Sensitivity	0.80
	Specificity	0.84

Assessment: Still Cogent?



"At some point his theory becomes so abstract it can only be conveyed using interpretive dance."

Assessment: Timing

- First post-deployment blind validation study in USAREUR during reintegration revealed:

	Immediate Reintegration	
	Values	Percent
Traumatic Stress	15 / 488	2.98%
Depression (PHQ)	5 / 502	0.99%
General Distress (K6)	4 / 503	0.79%
Anger Scale	44 / 465	8.64%
Any of the above	53 / 448	10.58%

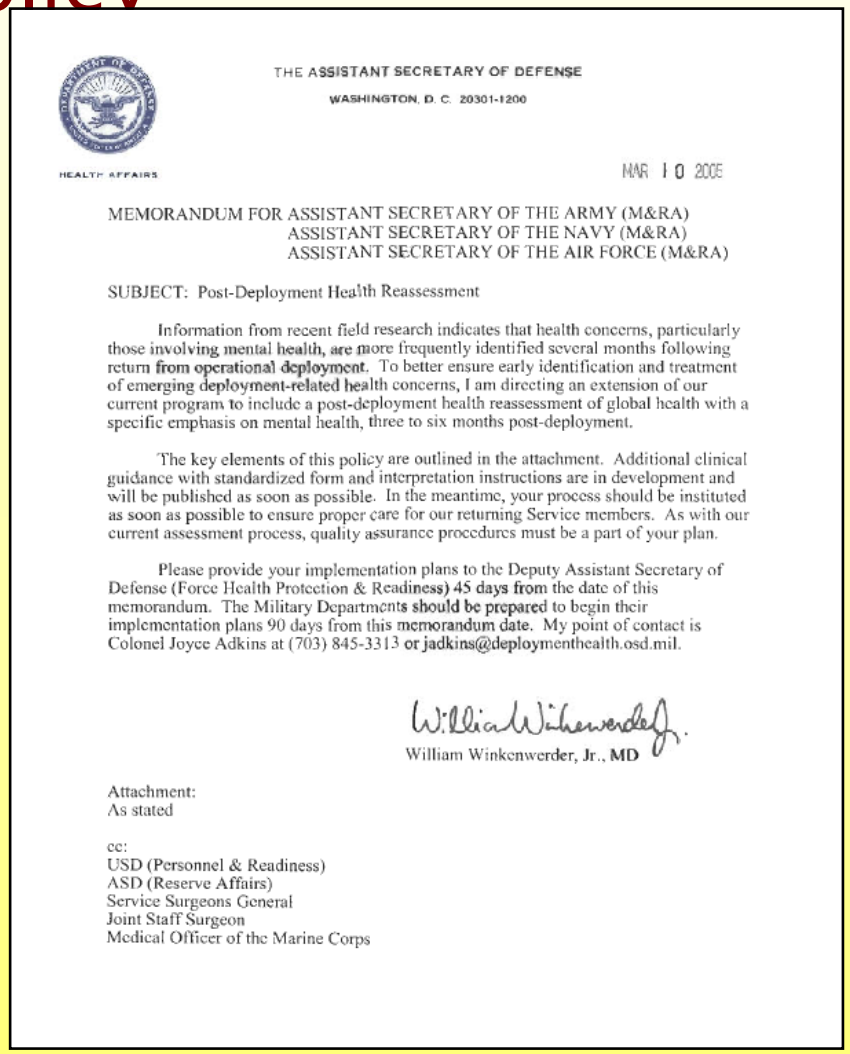
Assessment: Timing

- Colleagues (Hoge et al., 2004) had forth-coming paper at NEJM with higher numbers…
- ~~Matched follow-up (timing or anonymity)?~~

	Immediate Reintegration		120 Days Post-Reintegration	
	Values	Percent	Values	Percent
Traumatic Stress	15 / 488	2.98%	42 / 457	8.42%
Depression (PHQ)	5 / 502	0.99%	26 / 478	5.16%
General Distress (K6)	4 / 503	0.79%	24 / 479	4.77%
Anger Scale	44 / 465	8.64%	97 / 402	19.44%
Any of the above	53 / 448	10.58%	110 / 379	22.49%

Mental Health Re-Assessment Policy

- 1AD and 1ID in USAREUR implemented 90-120 day screening
- In 2005, health affairs mandated 120-day Post Deployment Health Re-Assessment (PDHRA) across the entire military.



THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301-1200

HEALTH AFFAIRS

MAR 10 2005

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (M&RA)
ASSISTANT SECRETARY OF THE NAVY (M&RA)
ASSISTANT SECRETARY OF THE AIR FORCE (M&RA)

SUBJECT: Post-Deployment Health Reassessment

Information from recent field research indicates that health concerns, particularly those involving mental health, are more frequently identified several months following return from operational deployment. To better ensure early identification and treatment of emerging deployment-related health concerns, I am directing an extension of our current program to include a post-deployment health reassessment of global health with a specific emphasis on mental health, three to six months post-deployment.

The key elements of this policy are outlined in the attachment. Additional clinical guidance with standardized form and interpretation instructions are in development and will be published as soon as possible. In the meantime, your process should be instituted as soon as possible to ensure proper care for our returning Service members. As with our current assessment process, quality assurance procedures must be a part of your plan.

Please provide your implementation plans to the Deputy Assistant Secretary of Defense (Force Health Protection & Readiness) 45 days from the date of this memorandum. The Military Departments should be prepared to begin their implementation plans 90 days from this memorandum date. My point of contact is Colonel Joyce Adkins at (703) 845-3313 or jadkins@deploymenthealth.osd.mil.

William Winkenwerder, Jr., MD

Attachment:
As stated

cc:
USD (Personnel & Readiness)
ASD (Reserve Affairs)
Service Surgeons General
Joint Staff Surgeon
Medical Officer of the Marine Corps

Mental Health ReAssessment: DD2900

POST-DEPLOYMENT HEALTH REASSESSMENT (PDHRA)

33348

Authority: 10 U.S.C. 136 Chapter 55. 1074f, 3013, 5013, 8013 and E.O. 9397

Principal Purpose: To assess your state of health after deployment in support of military operations and to assist military healthcare providers, including behavioral health providers, in identifying present and future medical care needs you may have. The information you provide may result in a referral for additional healthcare that may include behavioral healthcare.

Routine Use: To other Federal and State agencies and civilian healthcare providers as necessary in order to provide necessary medical care and treatment. Responses may be used to guide possible referrals.

Disclosure: Disclosure is voluntary.

INSTRUCTIONS: Please read each question completely and carefully before making your selections. Provide a response for each question. If you do not understand a question, ask the administrator. Please respond based on your MOST RECENT DEPLOYMENT.

Demographics

Last Name

First Name MI

Today's Date (dd/mm/yyyy) / /

DOB (dd/mm/yyyy) / /

Date arrived theater (mm/yyyy) /

Date departed theater (mm/yyyy) /

Social Security Number — —

Gender
- Male
- Female

Marital Status
- Never Married
- Married
- Separated

Service Branch
- Air Force
- Army
- Navy
- Marine Corps
- Coast Guard
- Other

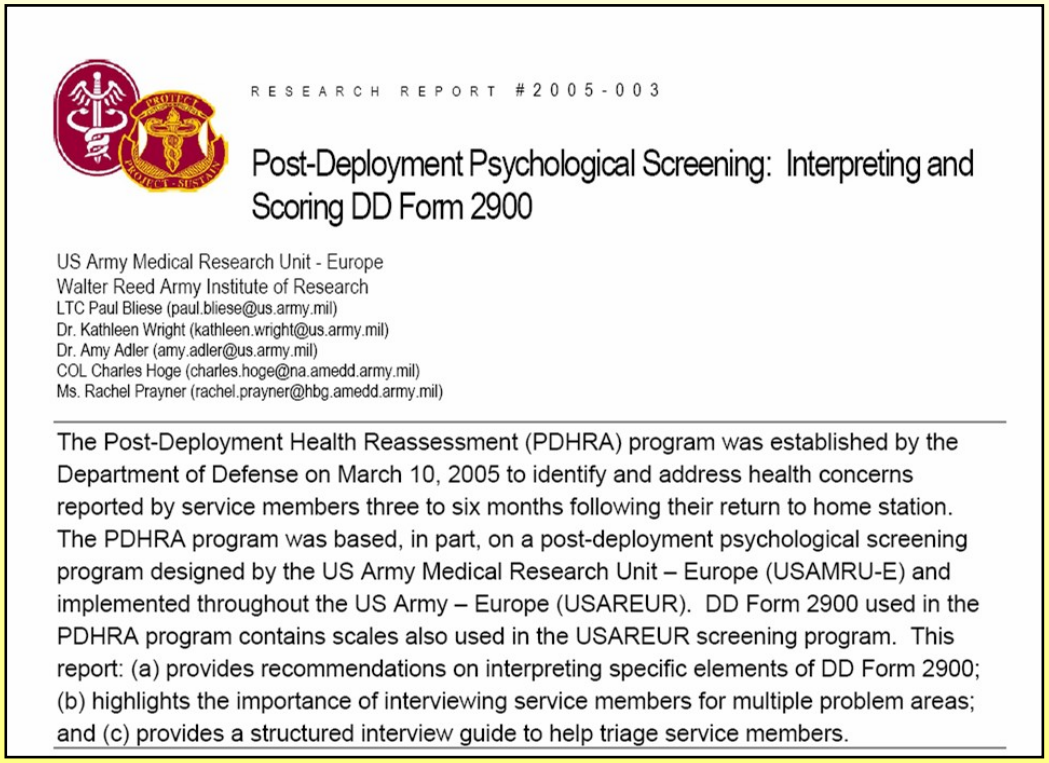
Status Prior to Deployment
- Active Duty
- Selected Reserves - Reserve - Unit
- Selected Reserves - Reserve - AGR
- Selected Reserves - Reserve - IMA
- Selected Reserves - National Guard - Unit
- Selected Reserves - National Guard - AGR
- Ready Reserves - IRR

Pay Grade

E1	O01	W1
E2	O02	W2
E3	O03	W3
E4	O04	W4
E5	O05	W5
E6	O06	
E7	O07	Other

Best Practices Implementing PHDRA

Scoring Instructions



RESEARCH REPORT #2005-003

Post-Deployment Psychological Screening: Interpreting and Scoring DD Form 2900

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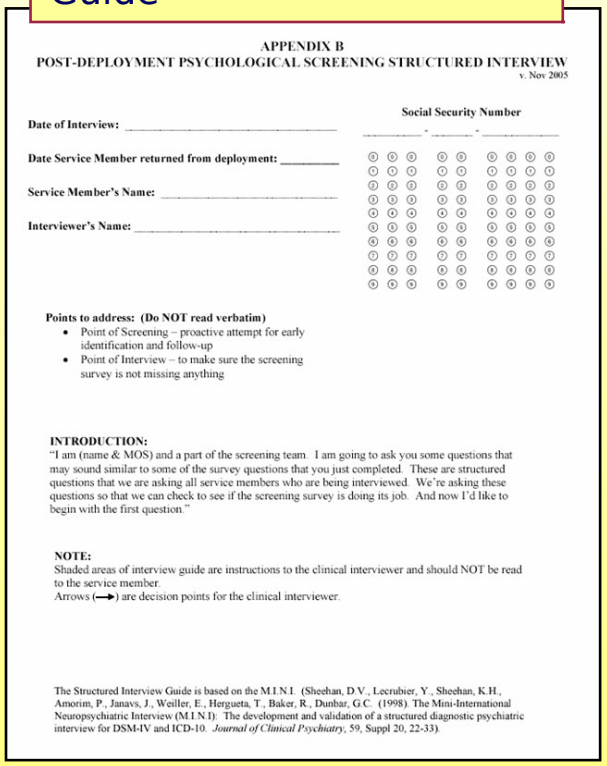
Ms. Rachel Prayner (rachel.prayner@hbg.amedd.army.mil)

The Post-Deployment Health Reassessment (PDHRA) program was established by the Department of Defense on March 10, 2005 to identify and address health concerns reported by service members three to six months following their return to home station. The PDHRA program was based, in part, on a post-deployment psychological screening program designed by the US Army Medical Research Unit – Europe (USAMRU-E) and implemented throughout the US Army – Europe (USAREUR). DD Form 2900 used in the PDHRA program contains scales also used in the USAREUR screening program. This report: (a) provides recommendations on interpreting specific elements of DD Form 2900; (b) highlights the importance of interviewing service members for multiple problem areas; and (c) provides a structured interview guide to help triage service members.

Standardized Interview Guide



APPENDIX B
POST-DEPLOYMENT PSYCHOLOGICAL SCREENING STRUCTURED INTERVIEW
v. Nov 2005

Date of Interview: _____

Social Security Number

Date Service Member returned from deployment: _____

Service Member's Name: _____

Interviewer's Name: _____

Points to address: (Do NOT read verbatim)

- Point of Screening – proactive attempt for early identification and follow-up
- Point of Interview – to make sure the screening survey is not missing anything

INTRODUCTION:
"I am (name & MOS) and a part of the screening team. I am going to ask you some questions that may sound similar to some of the survey questions that you just completed. These are structured questions that we are asking all service members who are being interviewed. We're asking these questions so that we can check to see if the screening survey is doing its job. And now I'd like to begin with the first question."

NOTE:
Shaded areas of interview guide are instructions to the clinical interviewer and should NOT be read to the service member.
Arrows (⟶) are decision points for the clinical interviewer.

The Structured Interview Guide is based on the M.I.N.I. (Sheehan, D.V., Lecrubier, Y., Sheehan, K.H., Amorim, P., Janavs, J., Weiller, E., Hergueta, T., Baker, R., Dunbar, G.C. (1998). The Mini-International Neuropsychiatric Interview (M.I.N.I): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *Journal of Clinical Psychiatry*, 59, Suppl 20, 22-33).

Assessment: Need for Interview Guide

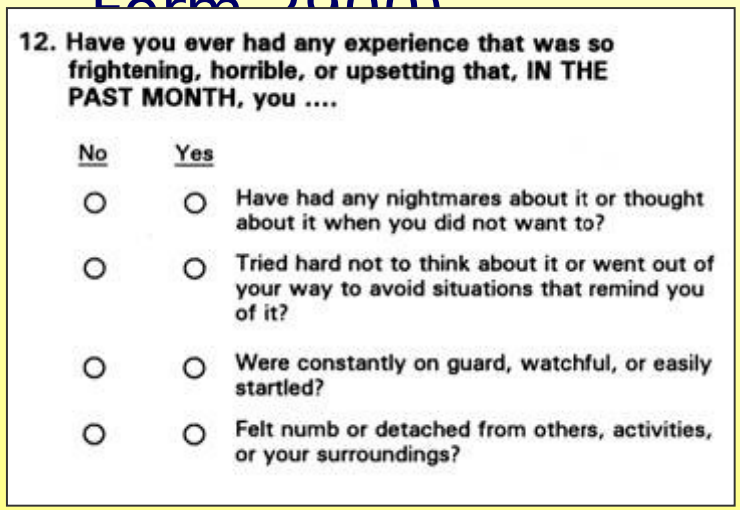
- Traumatic stress referrals are correlated with scoring positive on other dimensions
- These correlations indicate the value of inte nsions

Phi-Coefficients With Traumatic Stress Referral and Prevalence Rates

	Phi-Coefficients	Rates
Traumatic Stress Screen	0.52	0.10
Depression Screen	0.18	0.09
Alcohol Problem Screen	0.18	0.10
Speak to Interviewer Item	0.27	0.09
Anger Problem Screen	0.29	0.11
Sleep Problem Screen	0.25	0.05

Assessment: Need for Interview Guide

- Four items used to assess traumatic stress in US Military (DD Form 2796; DD Form 2900)



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Assessment: Need for Interview Guide

- Nine of 10 Soldiers identified when
  - A Soldier is interviewed for all dimensions
  - Scales have high cutoff values reducing false positives

	Screening Dimensions					
Referred for Traumatic Stress Evaluation	PTSD	Depression	Alcohol	Talk to Counselor	Anger	Sleep
1	0	0	1	0	1	0
1	0	1	0	1	0	0
1	0	0	0	1	0	0
1	0	0	0	1	0	1
1	0	0	0	1	0	0
1	0	0	1	0	1	0
1	0	1	0	1	1	0
1	0	0	0	0	0	0
1	0	0	1	1	1	0
1	0	0	1	0	1	0

Best Practices: Bottom Line

- Decision to implement PHDRA program at 3 to 6 months post-deployment based on empirical evidence.
- Items in PDHRA form have been validated. There is a lot of good information on how they should be interpreted.
- Program can be maximized by conducting standardized interviews of all dimensions when one dimension is triggered.

Outline

- *Mental health Post-Deployment Health ReAssessment (PDHRA) program*
  - *Supporting research*
  - *Best practices in terms of implementing program*
- BATTLEMIND Training
  - Supporting research
  - Implications and Battlemind Training System
- NATO Leader's Guide
- Summary
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Mental Health Training

- Combat exposure leads to increases in mental health problems
- Need early intervention training
- Problems with existing training
  - No standardized combat and deployment stress training packages prepare Soldiers for the stressors of war and for their return home from war
  - No systematic evaluations of training program efficacy

Battlemind Training

- BATTLEMIND – the Soldier's inner strength to face fear and adversity in combat with courage. This is resiliency…
- Key components include:
  - Self-confidence
    - Take calculated risks
    - Handle future challenges
  - Mental toughness
    - Overcome obstacles or setbacks
    - Maintain positive thoughts during times of adversity and challenge

Battlemind Training

- Each training module is:
  - Strength-based: Builds on Soldier and Family strengths and skills -- rejects a deficit model
  - Evidence-based: Based on findings from 50,000 Soldiers and 1,000 family members
  - Experience-based: Uses examples that Soldiers and Family members can relate to
  - Team-based: Provides self-awareness through buddy and family help
  - Action-focused: Discusses specific actions for Soldiers and Family members to take
  - Explanatory: Highlights conflicted/misunderstood reactions

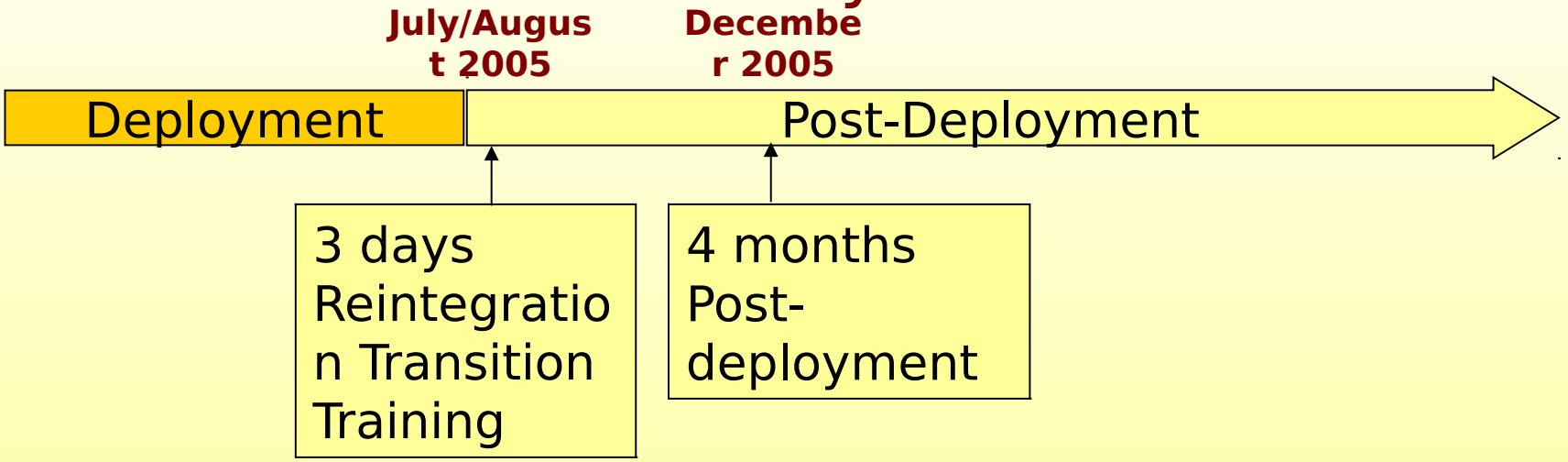
Battlemind Training: Reintegration

- The objective of the post-deployment Battlemind Training I (at Reintegration) is resetting Soldiers' Battlemind.
- The major content areas of BMT-I include:
  - Emphasizing Soldier safety and personal relationships
  - Normalizing combat-related mental health reactions and symptoms
  - Teaching Soldiers when they should seek mental health support for themselves or for their buddies

Battlemind I Training Evaluation

- Large-scale field study
  - Members of Brigade Combat Team (BCT) returning from Iraq
- Platoons randomly assigned to:
  - Battlemind training (large group and small group)
  - Stress Education (large group)
  - Psychological Debriefing (small group)
    - Widely used in the military, but questions about efficacy

Battlemind I: Soldier Transition Study



- Research Questions
  - What is the user acceptability of the four interventions?
  - Do the interventions prevent the typical pattern of symptoms increasing at the 4-month follow-up?

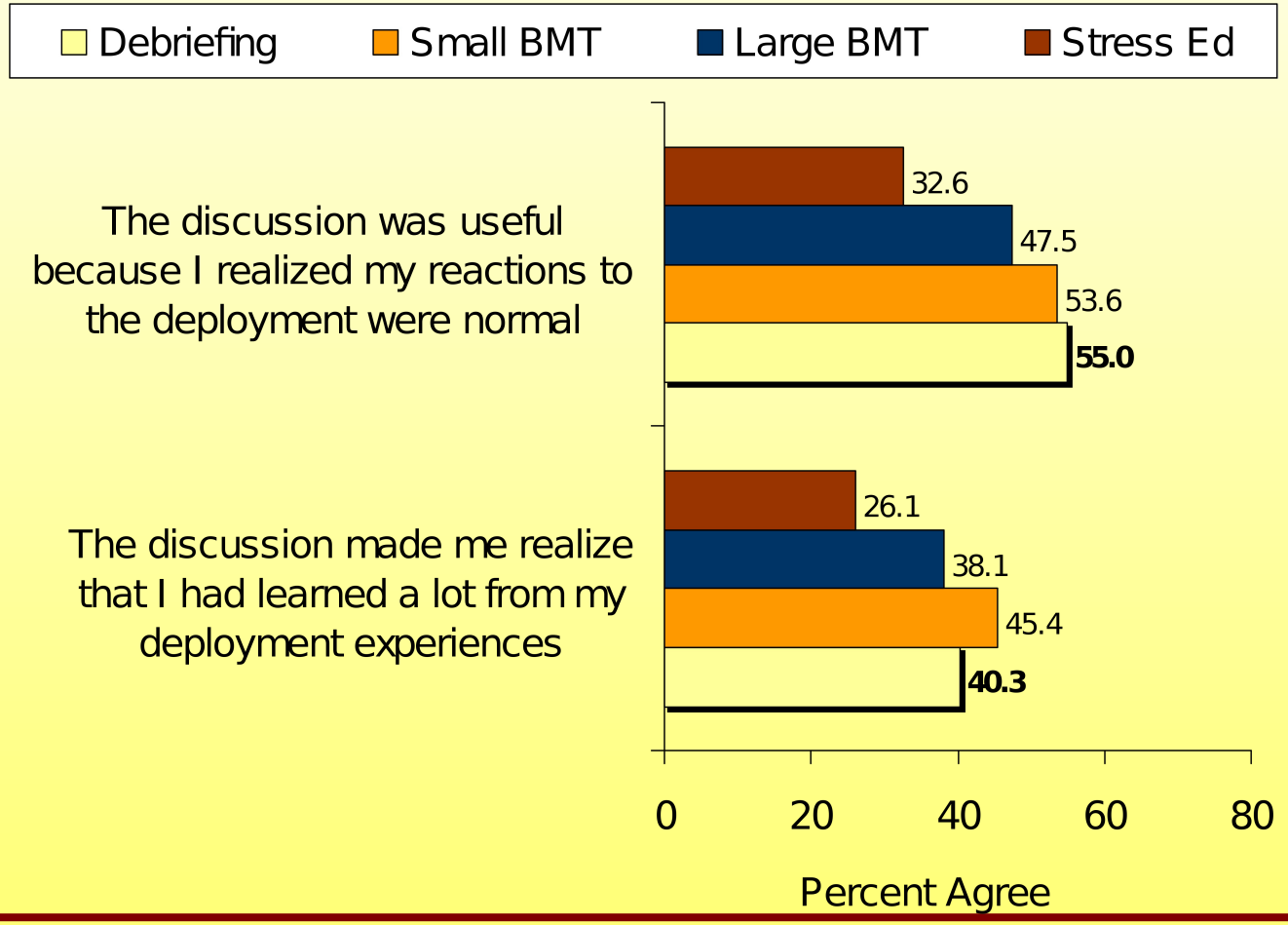
Battlemind I: Participants

- 1,061 Soldiers completed both surveys

	Post-Deployment Stress Education	Large Battlemind Training	Small Battlemind Training	Post-Deployment Debriefing
Number of Soldiers participating	243	274	273	271
Number of Sessions	5	6	23	26
Range of session participants	51-257	126-225	18-45	20-32

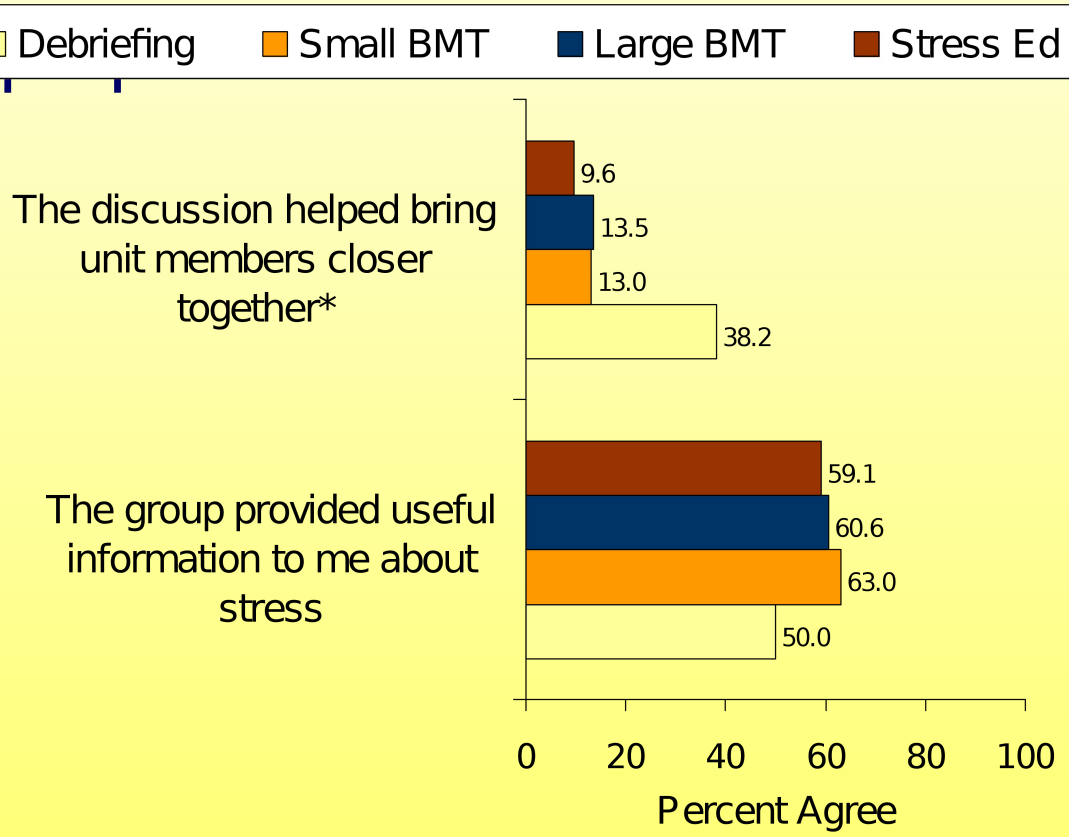
Battlemind I: Soldier Attitudes

- Soldiers gave Battlemind high ratings



Battlemind I: Soldier Attitudes

- Soldiers said debriefing increased cohesion
- All gro[illegible]t stress

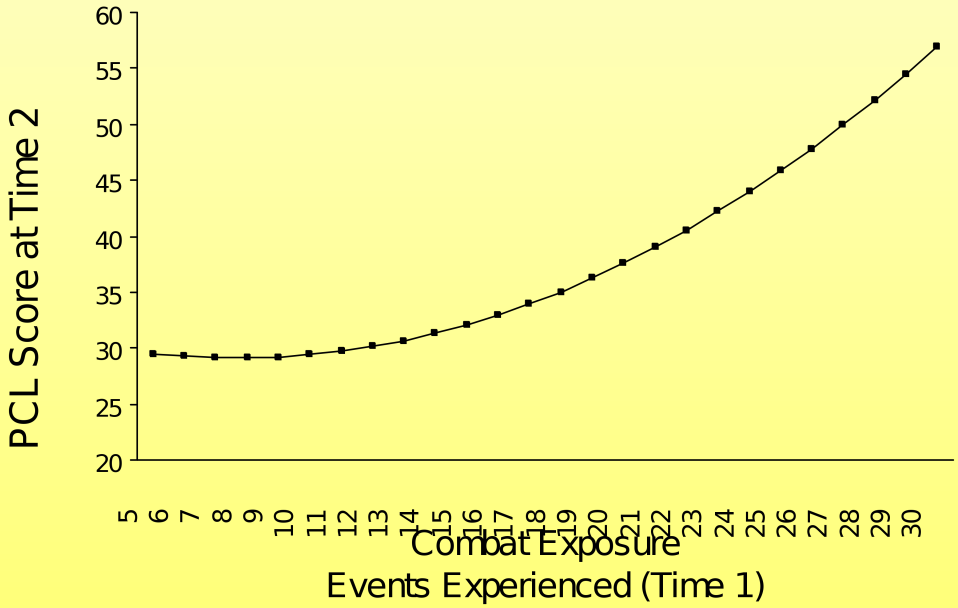


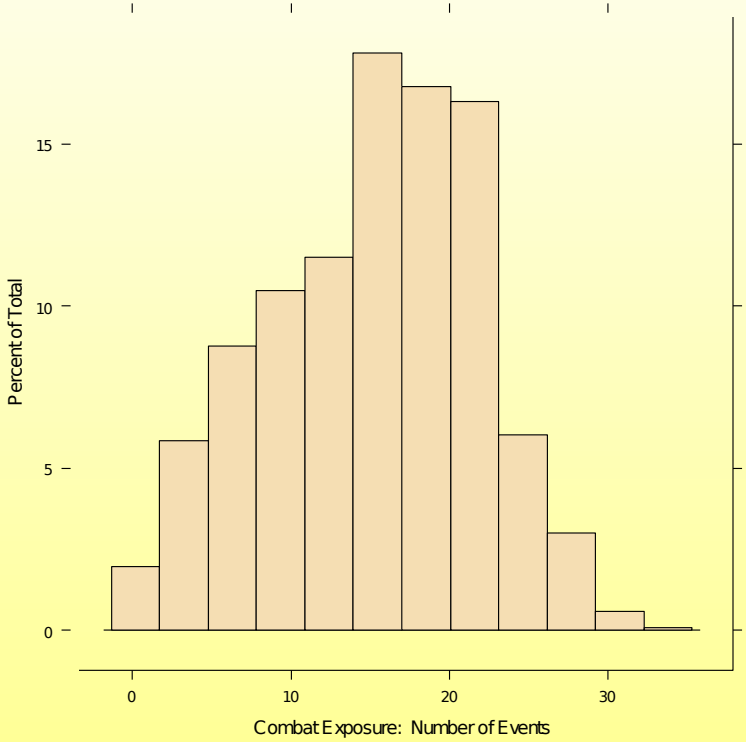
Battlemind Analysis Strategy

- Randomization not equal across conditions
  - Unit type
  - Gender
  - Rank
  - Pre-intervention symptoms
- Other covariates examined, but no differences across intervention conditions
  - Previous debriefing
  - Trainer effects

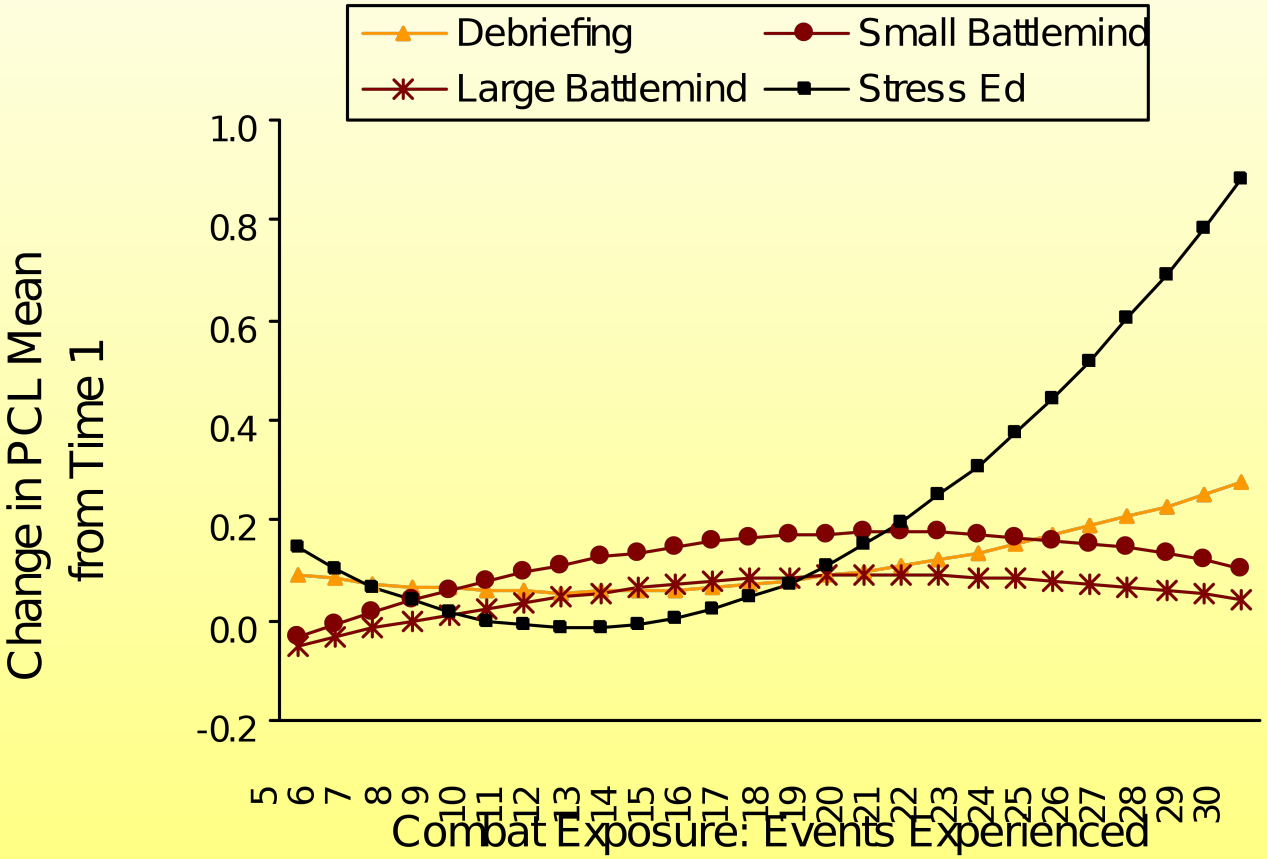
Battlemind I: Combat Events

- The sum of combat events is fairly normally distributed
  - Top 3rd is at 19



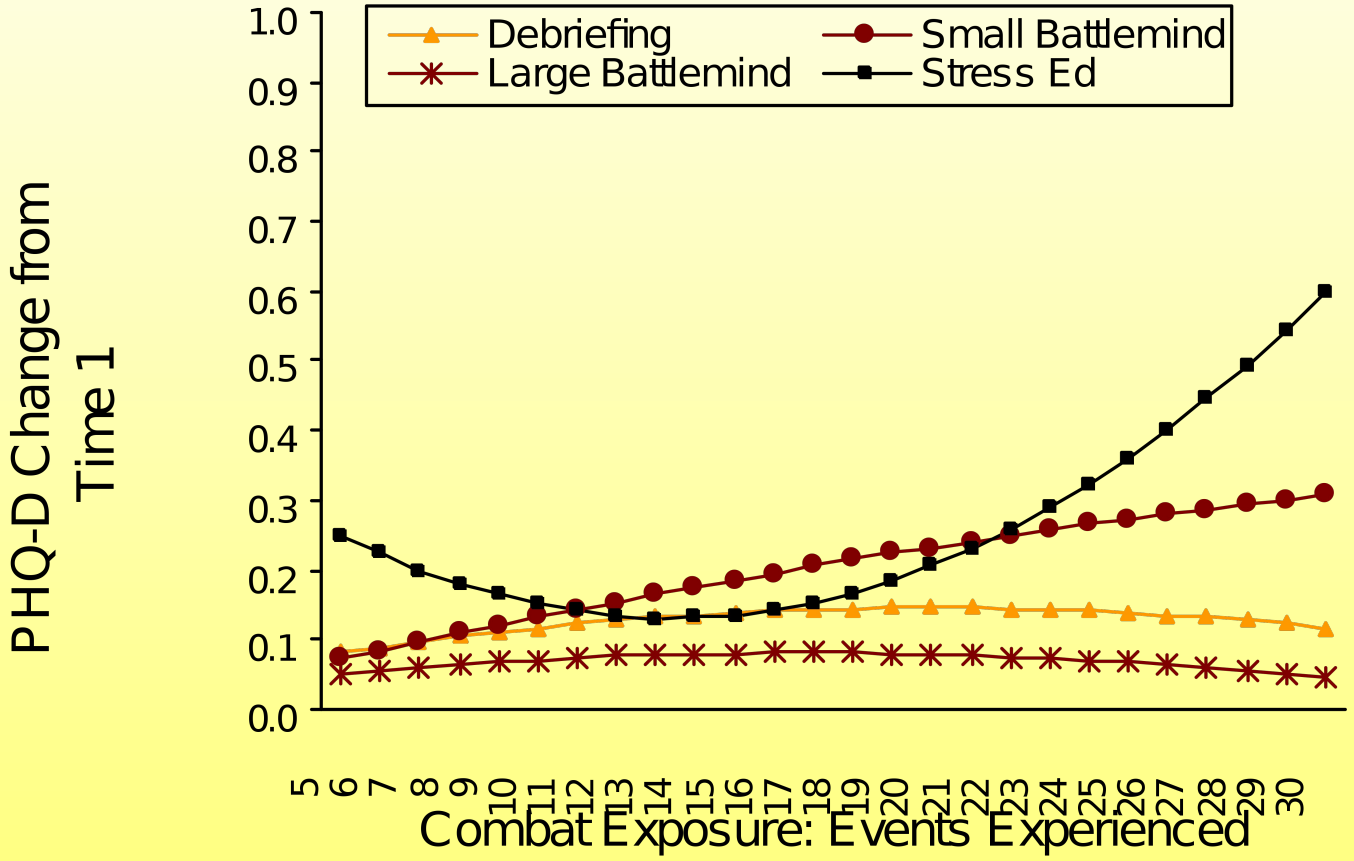


Battlemind I: Post-Traumatic Stress



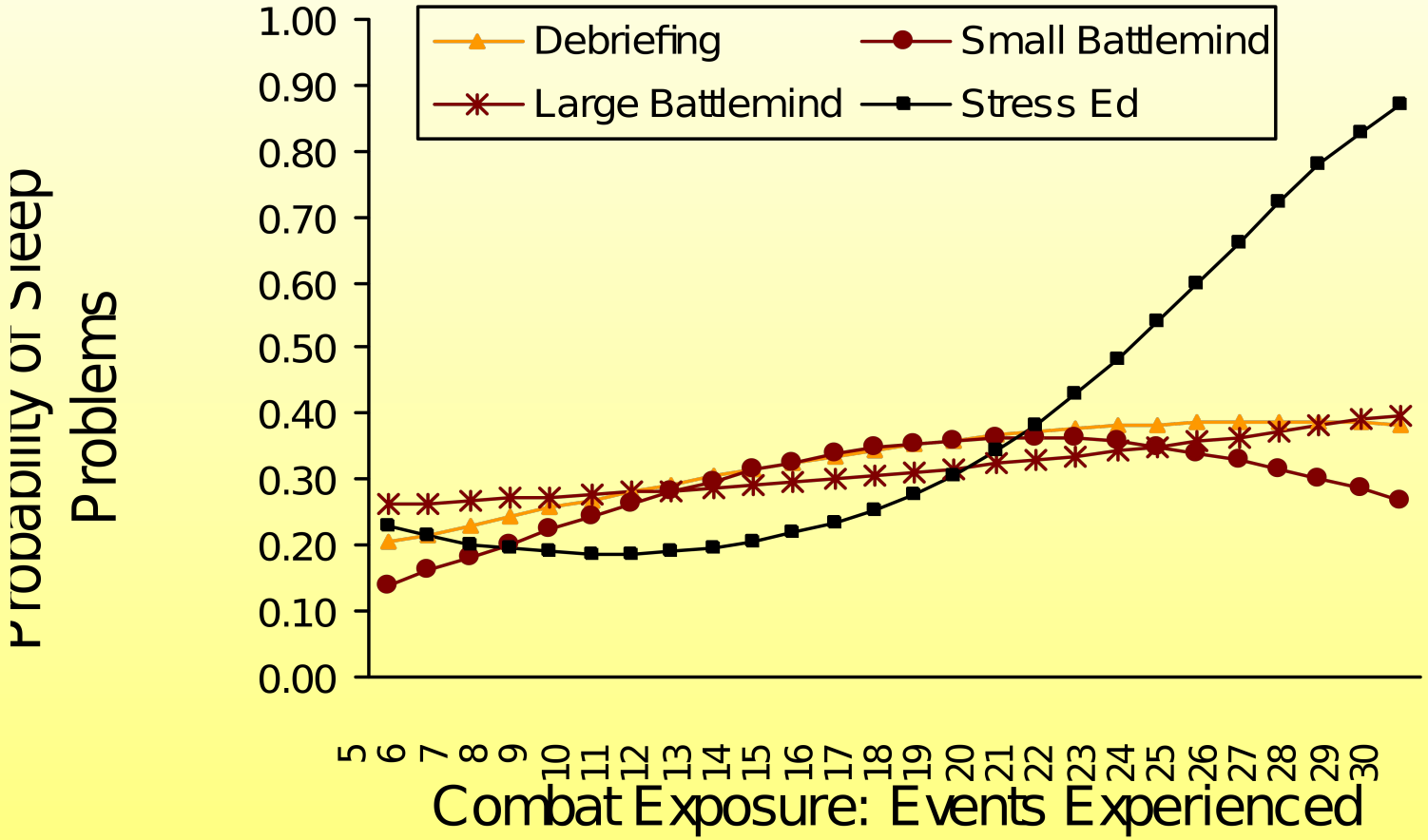
NOTE: Quadratic effect for Debriefing, Large and Small Battlemind

Battlemind I: Depression Symptoms



NOTE: Quadratic effect for Debriefing and Large Battlemind

Battlemind I: Sleep Problems



NOTE: Quadratic effect for Debriefing, Small Battlemind, and Large Battlemind

Battlemind I Results

- Debriefing effect sizes for top 3rd Combat exposure group

	Stress Education			Debriefing			
	Mean	SD	n	Mean	SD	n	d
SUDS	5.10	2.20	78	4.96	2.92	89	0.05
PCL	39.09	15.13	78	35.27	14.91	99	0.25
PHQ-Depression	1.83	0.62	84	1.68	0.66	100	0.23
Sleep Problems*	0.47	0.65	84	0.34	0.61	100	0.21
Stigma	3.00	0.83	82	2.96	0.69	85	0.06

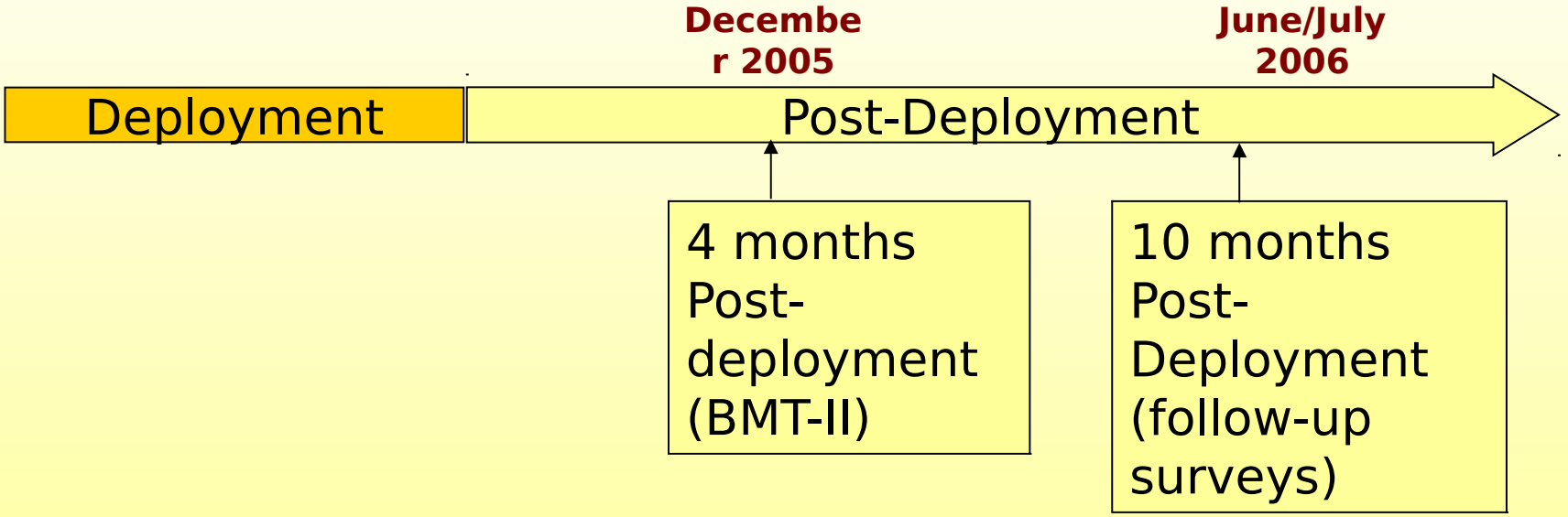
BMT-I Summary

- Debriefing and BMT-I not associated with increased subjective distress
- Debriefing and BMT-I associated with better adjustment for Soldiers reporting high combat exposure
- Limitations
  - No survey-only condition
  - Self-report data
- Conduct follow-up studies on BMT

PDHRA Battlemind Training

- Battlemind Training II (BMT-II) was piloted 4 months post-reintegration along with the Post-Deployment Health ReAssessment (PDHRA) program
- The major content areas of BMT-II include:
  - Ways to transition Battlemind skills (cognitive restructuring)
  - Battlemind Checks of self, buddy and Soldiers
  - Myths of mental health

PDHRA BMT-II Study



- Research Questions
  - What is the user acceptability of Battlemind II (BMT-II)?
  - Does BMT-II help reduce symptoms at follow-up?

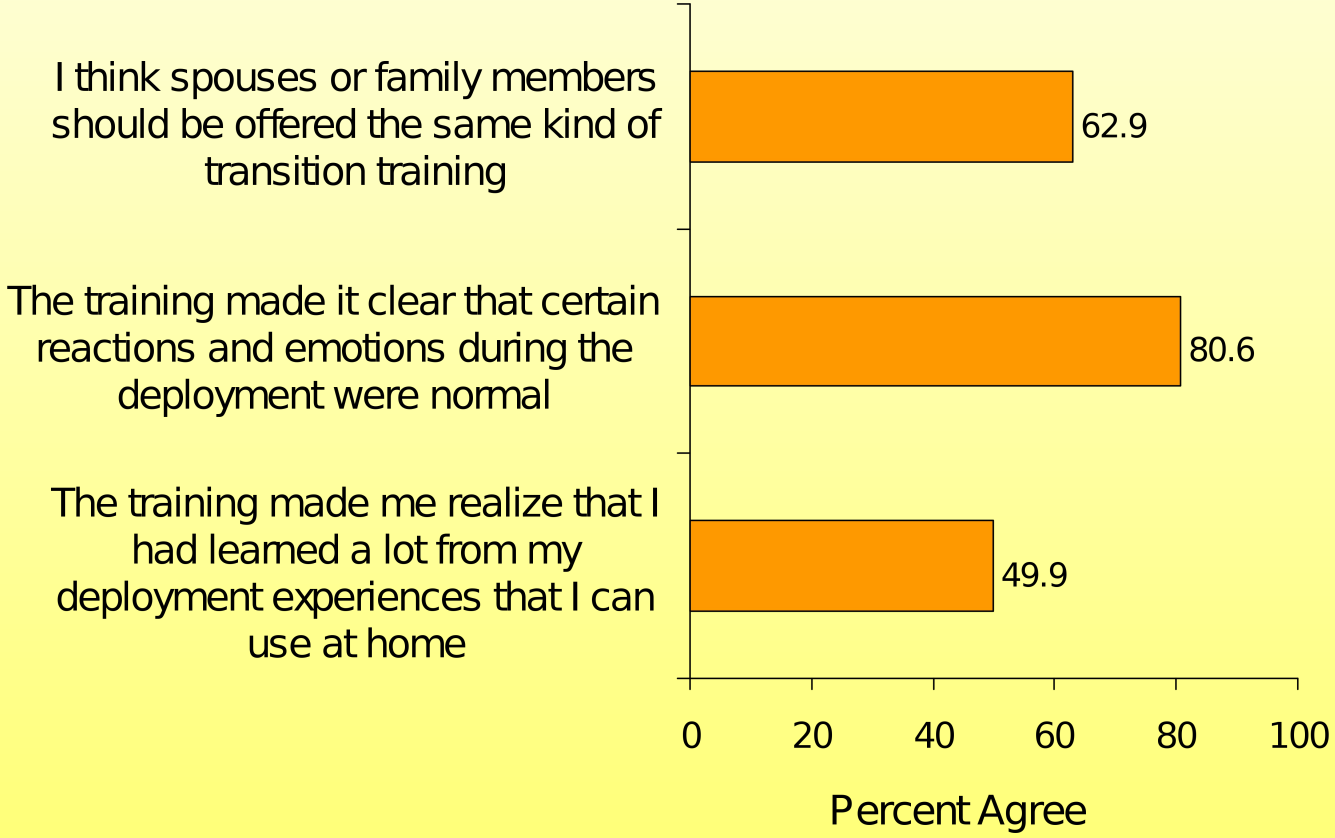
BMT-II: Participants

- 629 Soldiers completed follow-up surveys at 10 months post-deployment

	Survey Only	PDHRA Battlemind Training
Number of Soldiers participating	**295**	**334**
Number of Sessions	41	41
Range of session participants	3-45	11-41

BMT-II Soldier Attitudes

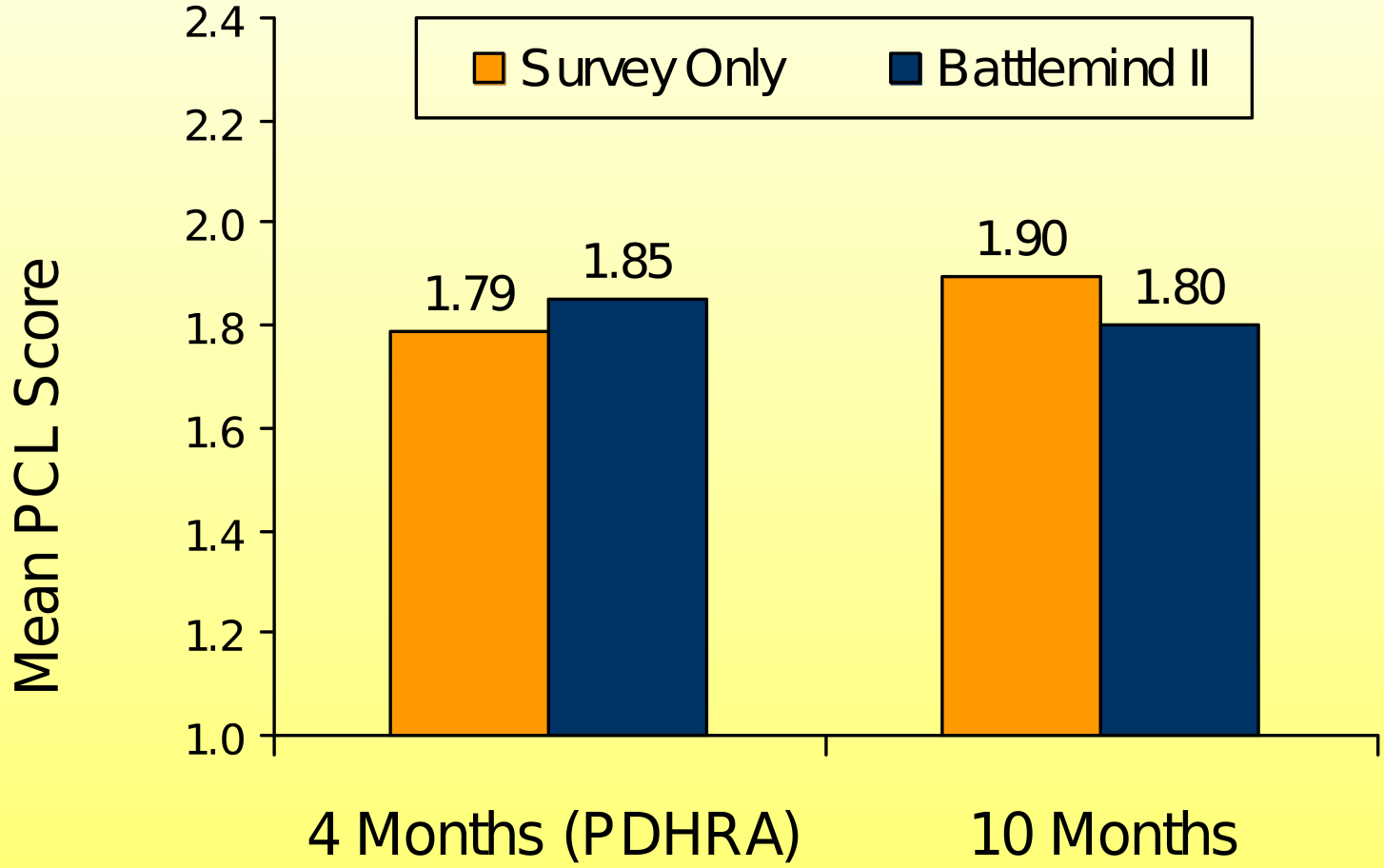
- Soldiers gave Battlemind training high ratings



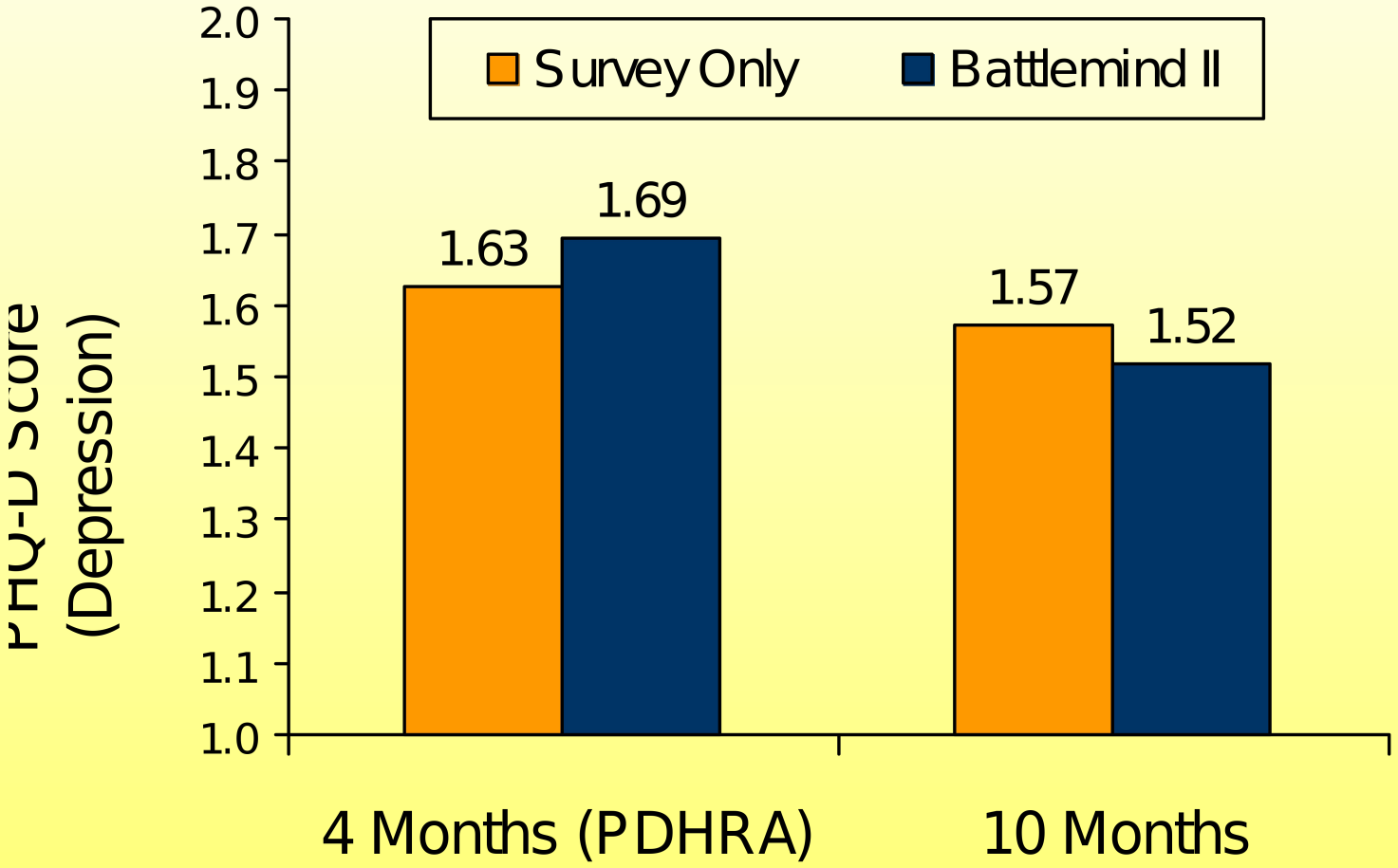
BMT-II: Analysis Strategy

- Analyses of BMT-II versus Survey Only modeled change scores and controlled for:
  - Pre-session scores
  - Rank
  - Exposure

BMT-II: PTSD Symptoms



BMT-II: Depression



Implications for Transition Training

- Battlemind Training provides an integrated system of support that reinforces concepts
  - Provides standardized training platform to talk about mental health issues to Soldiers.
- Efficacy of Battlemind demonstrated
  - 1-hour training resulted in improvements 4-6 months post-intervention
- Develop additional Battlemind interventions to enhance effects of training
  - Emotional writing and BMT-II
  - Cognitive Behavioral Education and BMT-II

BATTLEMIND Training System

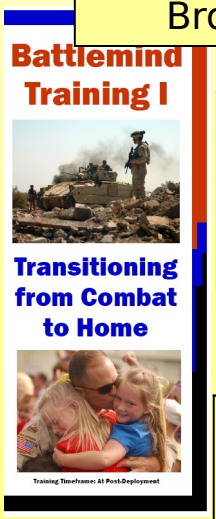
http://www.battlemind.org

Pre-Deployment | Deployment | Post-Deployment

Pre-Deployment BATTLEMIND For Leaders For Junior Leaders

Couples BATTLEMIND Brief and Brochure

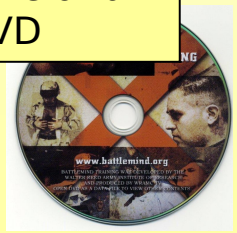
BATTLEMIND I Re-integration Brief and Brochure



BATTLEMIND DEBRIEFING Instructional Guide

Couples BATTLEMIND Brief and Brochure

BATTLEMIND II 90-120 Day (PDHRA) Brief, Brochure and DVD



Advanced BATTLEMIND

Outline

- *Mental health Post-Deployment Health ReAssessment (PDHRA) program*
  - *Supporting research*
  - *Best practices in terms of implementing program*
- *BATTLEMIND Training*
  - *Supporting research*
  - *Implications and Battlemind Training System*
- NATO Leader's Guide
- Summary
- POCs

NATO Leader's Guide

- NATO RTG 020
  - International group of more than 30 military mental health professionals (psychiatrists, psychologists, sociologists)
  - Representatives from NATO and Partnership for Peace nations (active duty and civilians working in their Department of Defense)
  - Objective: To develop information and practical guidelines for military leaders on stress and psychological support in order to enhance effectiveness in modern military operations.

NATO Leader's Guide

NATO (16) :

- Belgium*
- Bulgaria
- Canada
- Czech Republic
- Denmark
- Germany
- France
- Lithuania
- Luxembourg
- The Netherlands
- Romania
- Slovakia
- Spain
- Turkey
- UK
- USA

PfP (4):

- Austria
- Croatia
- Sweden
- Russia

*Chair Lt Col Yves Cuvelier

NATO Leader's Guide

- Title: A Leader's Guide to Psychological Support Across the Deployment Cycle
- Goal: Provide military leaders with information and practical strategies for dealing with stress and the provision of psychological support.
- Integrated: Leader feedback, personal accounts, international experts

NATO Leader's Guide

- About 50 pages long
- Chapters
  - Military Leader's Role in Psychological Readiness
  - What Unit Members and Leaders Expect
  - Individual Psychological Fitness
  - Morale and Unit Effectiveness
  - Military Family Readiness
  - What To Do When Things Go Wrong
  - Working with Psychological Support Professionals
  - Conclusion

NATO Leader's Guide

CHAPTER 1. MILITARY LEADERS' ROLE IN PSYCHOLOGICAL READINESS

Chapter Objectives:

- Review impact of deployment stressors on unit
- Discuss role of leadership and training
- Identify goals of guide

1.1. Introduction

Box 1.1: The First Casualty

"Three months into a year's deployment a night patrol was ambushed and a personnel vehicle was struck by a rocket-propelled grenade [RPG]. A soldier was pinned underneath. Military police arrived and there was a one-and-a-half hour gun battle during which time the trapped soldier was screaming. We got him out but he died at the scene despite resuscitation attempts. The incident affected everyone badly. On return to base, some soldiers unleashed their feelings; others bottled them up. For many this had been a first combat exposure. No mental health support was available that night. Many were stressed out."

- Military Leaders Survey

Being a military leader is a challenging job. Besides achieving operational objectives, unit leaders handle a range of problems affecting unit readiness. Whilst most military personnel do well on deployment, it is the leader's responsibility to manage psychological support

Credits

- I gave the talk, and I do the statistics but we are one team…
  - COL Charles Hoge is the program manager for the joint WRAIR and USAMRU-E research program
  - The screening research was developed by Dr. Kathleen Wright at USAMRU-E
  - Battlemind training was developed by COL Carl Castro and tested in conjunction with Debriefing in a protocol led by Dr. Amy Adler
- We are all funded by the Medical Research and Materiel Command

Point of Contact

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